

cont. us
 Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge; and

a projection lens that projects the light emitted from the prism.

REMARKS

Claims 1-18 are pending. By this Amendment, Figs. 6 and 7 are added in accordance with the attached Request for Approval of Drawing Corrections, the specification is amended and claims 1, 3 and 9-18 are amended.

The attached Appendix includes marked-up copies of each rewritten paragraph (37 C.F.R. §1.121(b)(1)(iii)) and claim (37 C.F.R. §1.121(c)(1)(ii)).

I. The Drawings Satisfy All Formal Requirements

The Office Action objects to the drawings due to informalities. The drawings are corrected in accordance with the attached Request for Approval of Drawing Corrections to obviate this objection. Furthermore the specification is amended at paragraph 74 to include the element numerals of added Figs. 6 and 7.

II. Claims 16 and 17 Satisfy the Requirements of 35 U.S.C. §112, second paragraph

The Office Action rejects claims 16 and 17 under 35 U.S.C. §112, second paragraph. Specifically the Office Action states a visual angle compensating film is not well known in the art. This rejection is respectfully traversed.

Applicant includes U.S. Patent No. 5,583,679 to Ito et al. which discloses a visual angle compensating film. Furthermore, Applicant refers to U.S. Application No. 09/679,296 owned by the Applicant which also refers to a visual angle compensating film. Thus, the visual angle compensating film is well known to one of ordinary skill in the art. Withdrawal of the rejection is respectfully requested.

III. The Claims Define Patentable Subject Matter

The Office Action rejects claims 1 and 5-8 under 35 U.S.C. §102(e) over U.S. Patent No. 6,375,328 to Hashizume et al. This rejection is respectfully traversed.

Hashizume does not disclose any static layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge as recited in independent claim 1. Instead, Hashizume discloses that transparent plates are to be treated with electrostatic protection. See, e.g., col. 11, lines 63 - col. 12, line 2.

The Office Action rejects claims 2, 3, 9-13 and 16-18 under 35 U.S.C. §103(a) over Hashizume and further in view of U.S. Patent No. 6,340,404 to Oka et al. This rejection is respectfully traversed.

Claims 2 and 3 dependent from claim 1 which as indicated above defines patentable subject matter. Claims 9-13 and 16-18 have been amended to recite the feature of claim 1, the antistatic layer having conductive particulates including any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge. As previously discussed, Hashizume does not disclose this feature. Oka does not provide the deficiencies of Hashizume.

The Office Action rejects claim 4 under 35 U.S.C. §103(a) over Hashizume in view of Oka and further in view of U.S. Patent No. 6,423,404 to Ohtsuka. This rejection is respectfully traversed.

Claim 4 depends from claim 1, which as indicated above, defines patentable subject matter. Withdrawal of this rejection is respectfully requested.

The Office Action rejects claims 14 and 15 under 35 U.S.C. §103(a) over Hashizume in view of Oka and further in view of U.S. Patent No. 6,379,010 to Suzuki et al. This rejection is respectfully traversed.

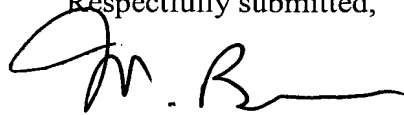
Claims 14 and 15 recite the antistatic layer having conductive particulates including any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge. As discussed above, Hashizume and Oka do not provide this feature. Suzuki does not provide the deficiencies of Hashizume and Oka.

IV. Conclusion

In view of the foregoing, Applicant submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Michael Britton
Registration No. 47,260

JAO:MB/nra

Attachment:

Appendix
Petition For Extension of Time
Request for Approval of Drawing Additions and Corrections
U.S. Patent No. 5,583,679

Date: January 2, 2003

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
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APPENDIX

Changes to Specification:

The following is a marked-up version of the amended paragraphs:

[0016] The conductive particulates include, for example, metals, such as Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, and Pb, or borides, such as HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, and GdB₄, or carbides, such as TiC, ZrC, HfC, TaC, SiC, and WC, or nitrides, such as TiN, ~~ZrN~~ZrN, and HfN, or semiconductors, such as Si and Ge, or carbon. An appropriate one can be selected from among the above.

[0074] Such other optical elements include, for example, the field lenses 139R, 139G, and 139B, an incident polarizer ~~(not shown)~~182B, 182G and 182R, disposed between the field lenses 139R, 139G, and 139B and the liquid crystal panels 141R, 141G, and 141B, an emergent polarizer ~~(not shown)~~184B, 184G and 184R, disposed between the liquid crystal panels 141R, 141G, and 141B and the cross-dichroic prism 150, and a light incident surface of the cross-dichroic prism 150. As necessary, a phase plate ~~(not shown)~~183B, 183G and 183R, or a visual compensating film 186B, 186G and 186R, or the like, ~~which is not shown,~~ for enhancing contrast may be provided between the incident polarizer 182B, 182G and 184R and the field lenses 139R, 139G, and 139B or in an optical path between the emergent polarizer 184B, 184G and 184R and the cross-dichroic prism 150. These phase plate 183B, 183G and 183R and the visual compensating film may be included in the foregoing other optical elements.

Changes to Claims:

The following is a marked-up version of the amended claims:

1. (Amended) An electro-optical apparatus, comprising:
a pair of substrates, the pair of substrates having an outer surface;
an electro-optical element sandwiched between the pair of substrates; and

an antistatic layer provided on the outer surface of at least one of the pair of substrates, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge.

3. (Amended) The electro-optical apparatus according to claim 2, the antistatic layer being formed of silica ~~and conductive particulates~~.

9. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus; and

a field lens disposed adjacent to a light source side of the electro-optical apparatus, at least one surface of the field lens being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge.

10. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus; and

an incident polarizer disposed adjacent to a light source side of the electro-optical apparatus, at least one surface of the incident polarizer being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, Gd₂O₃, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge.

11. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus;

a light transmitting substrate, at least one surface of the light transmitting substrate being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, Gd₂O₃, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge; and

an incident polarizer disposed adjacent to a light source side of the electro-optical apparatus, the incident polarizer being bonded to the light transmitting substrate.

12. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus; and

an emergent polarizer disposed adjacent to a projection lens side of the electro-optical apparatus, at least one surface of the emergent polarizer being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge.

13. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus;

a light transmitting substrate, at least one surface of the light transmitting substrate being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge; and

an emergent polarizer disposed adjacent to a projection lens side of the electro-optical apparatus, the emergent polarizer being bonded to the light transmitting substrate.

14. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus; and

a phase plate disposed adjacent to at least one of a light source side and a projection lens side of the electro-optical apparatus, at least one surface of the phase plate being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge.

15. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus;

a light transmitting substrate, at least one surface of the light transmitting substrate being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge; and

a phase plate disposed adjacent to at least one of a light source side and a projection lens side of the electro-optical apparatus, the phase plate being bonded to the light transmitting substrate.

16. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus; and

a visual angle compensating film disposed adjacent to at least one of a light source side and a projection lens side of the electro-optical apparatus, at least one surface of the visual angle compensating film being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge.

17. (Amended) A projector, comprising:

a light source;

an electro-optical apparatus that forms an optical image from a light beam emitted from the light source;

a projection lens that projects a light beam emitted from the electro-optical apparatus;

a light transmitting substrate, at least one surface of the light transmitting substrate being provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd.

Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge; and

a visual angle compensating film disposed adjacent to at least one of a light source side and a projection lens side of the electro-optical apparatus, the visual angle compensating film being bonded to the light transmitting substrate.

18. (Amended) A projector, comprising:

a plurality of electro-optical apparatuses that modulate a plurality of color beams;

a prism that synthesizes the color beams that have been modulated by the electro-optical apparatuses, the prism having a light incident end surface provided with at least one of an antistatic layer and an antistatic treatment, the antistatic layer having conductive particulates, the conductive particulates include any of Pd, Pt, Ru, Ag, Au, Ti, In, Cu, Cr, Fe, Zn, Sn, Ta, W, Pb, HfB₂, ZrB₂, LaB₆, CeB₆, YB₄, GdB₄, TiC, ZrC, HfC, TaC, SiC, WC, TiN, ZrN, HfN, Si and Ge; and

a projection lens that projects the light emitted from the prism.